and other penalties.

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:10:21 ON 24 JUN 2009

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.22	0.22

FILE 'REGISTRY' ENTERED AT 10:10:40 ON 24 JUN 2009

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 JUN 2009 HIGHEST RN 1159446-15-7
DICTIONARY FILE UPDATES: 22 JUN 2009 HIGHEST RN 1159446-15-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

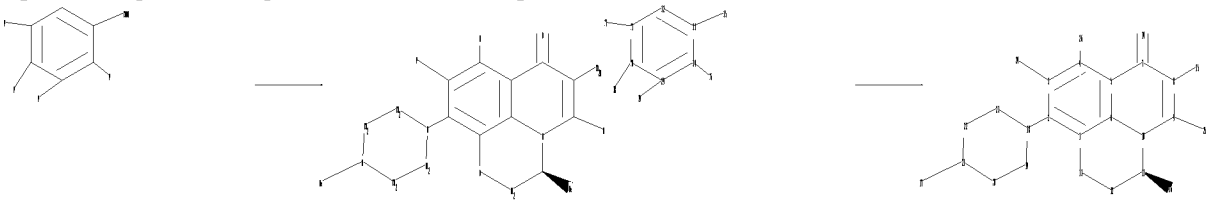
TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\Stnexp\Queries\10578078cc.str



chain nodes :
14 15 16 17 24 25 26 35 36 37 38 39
ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 18 19 20 21 22 23 29 30 31 32
33 34
chain bonds :
2-18 3-24 4-26 7-14 8-15 9-25 11-16 17-21 29-39 30-38 31-37 33-35 34-36

ring bonds :
1-2 1-6 1-13 2-3 3-4 4-5 5-6 5-7 6-10 7-8 8-9 9-10 10-11 11-12 12-13
18-19 18-23 19-20 20-21 21-22 22-23 29-30 29-34 30-31 31-32 32-33 33-34
exact/norm bonds :
1-13 2-18 5-7 6-10 7-8 7-14 8-9 9-10 10-11 11-12 12-13 18-19 18-23
19-20 20-21 21-22 22-23
exact bonds :
3-24 4-26 8-15 9-25 11-16 17-21 29-39 30-38 31-37 33-35 34-36
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 29-30 29-34 30-31 31-32 32-33 33-34

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 29:CLASS
30:Atom 31:Atom 32:Atom 33:Atom 34:Atom 35:CLASS 36:CLASS 37:CLASS 38:CLASS
39:CLASS
fragments assigned product role:
containing 1
fragments assigned reactant/reagent role:
containing 29

Stereo Bonds:

16-11 (Single Wedge).

Stereo Chiral Centers:

11 (Parity=Don't Care)

Stereo RSS Sets:

Type=Relative (Default). 1 Nodes= 11

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> file casreact

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.48	0.70

FILE 'CASREACT' ENTERED AT 10:11:11 ON 24 JUN 2009

FILE CONTENT:1840 - 21 Jun 2009 VOL 150 ISS 26

New CAS Information Use Policies, enter HELP USAGETERMS for details.

```
*************************************************************
*                                                           *
*     CASREACT now has more than 16.5 million reactions     *
*                                                           *
*************************************************************
```

CASREACT contains reactions from CAS and from: ZIC/VINITI database (1974-1999) provided by InfoChem; INPI data prior to 1986; Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich; organic reactions, portions copyright 1996-2006 John Wiley & Sons, Ltd., John Wiley and Sons, Inc., Organic Reactions Inc., and Organic Syntheses Inc. Reproduced under license. All Rights Reserved.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l1
SAMPLE SEARCH INITIATED 10:11:16 FILE 'CASREACT'
SCREENING COMPLETE -        0 REACTIONS TO VERIFY FROM        0 DOCUMENTS

100.0% DONE       0 VERIFIED       0 HIT RXNS                       0 DOCS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED VERIFICATIONS:         0 TO        0
PROJECTED ANSWERS:               0 TO        0

L2            0 SEA SSS SAM L1 (     0 REACTIONS)

=> s l1 sss full
FULL SEARCH INITIATED 10:11:23 FILE 'CASREACT'
SCREENING COMPLETE -      115 REACTIONS TO VERIFY FROM       10 DOCUMENTS

100.0% DONE     115 VERIFIED       8 HIT RXNS                       3 DOCS
SEARCH TIME: 00.00.02

L3            3 SEA SSS FUL L1 (     8 REACTIONS)

=> d ibib abs fhit tot
```

L3 ANSWER 1 OF 3 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 144:468205 CASREACT
TITLE: Synthetic process for the preparation of levofloxacin hemihydrate from levofloxacin
INVENTOR(S): Rao, Davuluri Rammohan; Dwivedi, Shriprakash Dhar; Sreenivasulu, Pamujula; Sahu, Arabinda; Trinadhachari, Ganala Naga; Kiran, Surapaneni Sasi
PATENT ASSIGNEE(S): Neuland Laboratories Ltd., India
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

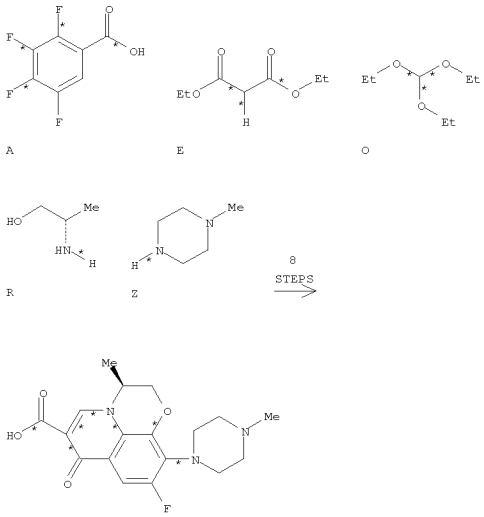
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006048889	A1	20060511	WO 2004-IN343	20041108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 20070244318	A1	20071018	US 2004-578078	20040811
EP 1809637	A1	20070725	EP 2004-806742	20041108
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.: WO 2004-IN343 20041108

AB A process for preparation of Levofloxacin hemihydrate, having single individual impurity not more than 0.1% and free from particulate matter and from the other enantiomer (R-form), is described which comprises: dissolving levofloxacin tech. grade in an aqueous alkaline solution; treating the solution with activated carbon at room temperature; removing the undissolved particulate matter by filtration; bringing the pH of the aqueous alkaline levofloxacin solution to neutral using dilute mineral acid; removing the precipitated particulate matter by filtration; acidifying the resulting solution; treating the acidified solution with activated carbon at room temperature; filtering the undissolved particulate matter by filtration; neutralizing the acidic solution; filtering again to remove any particulate matter present; and extracting the resulting product with a chlorinated solvent (e.g., C12CH2) and concentrating under vacuum

L3 ANSWER 1 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)
using aq. THF or an admixt. with other org. solvents to get highly pure levofloxacin hemihydrate having a single individual impurity which is <0.1% and is fee from particulate matter and from the other enantiomer (R-form).

RX(36) OF 36 COMPOSED OF RX(1), RX(2), RX(3), RX(4), RX(5), RX(6), RX(7), RX(8)
RX(36) A + E + O + R + Z ===> AA



RX(1) RCT A 1201-31-6
RGT C 7719-09-7 SOCl2

L3 ANSWER 1 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)
PRO B 94695-48-4
SOL 68-12-2 DMF
CON SUBSTAGE(1) room temperature -> 90 deg C
SUBSTAGE(2) 6 - 8 hours

RX(2) RCT E 105-53-3

STAGE(1)
SOL 64-17-5 EtOH, 108-88-3 PhMe
CON 20 minutes, room temperature

STAGE(2)
RGT G 7439-95-4 Mg
CAT 67-66-3 CHCl3
SOL 64-17-5 EtOH
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 minutes, room temperature
SUBSTAGE(3) 3 - 4 hours, 70 - 90 deg C
SUBSTAGE(4) 2 hours, 70 - 90 deg C
SUBSTAGE(5) 90 deg C -> 55 deg C

STAGE(3)
RCT B 94695-48-4
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(2) 30 - 35 deg C
SUBSTAGE(3) 35 deg C -> 5 deg C
SUBSTAGE(4) - 2 hour, 0 - 5 deg C
SUBSTAGE(5) 30 minutes, 0 - 5 deg C
SUBSTAGE(6) 5 deg C -> 25 deg C
SUBSTAGE(7) 30 minutes, 20 - 25 deg C

PRO F 94695-49-5

RX(3) RCT F 94695-49-5
RGT M 104-15-4 TsOH
PRO L 94695-50-8
SOL 7732-18-5 Water
CON 3 hours, 80 - 90 deg C

RX(4) RCT L 94695-50-8, O 122-51-0
PRO P 94714-58-6
SOL 108-24-7 Ac2O
CON SUBSTAGE(1) room temperature -> 125 deg C
SUBSTAGE(2) 4 hours, 120 - 125 deg C

RX(5) RCT P 94714-58-6, R 2749-11-3
PRO S 110548-02-2
SOL 75-09-2 CH2Cl2
CON SUBSTAGE(1) 30 - 35 deg C
SUBSTAGE(2) 35 deg C -> 5 deg C
SUBSTAGE(3) - 2 hour, 0 - 5 deg C
SUBSTAGE(4) 5 deg C -> 35 deg C
SUBSTAGE(5) 2 hours, 30 - 35 deg C

RX(6) RCT S 110548-02-2
RGT V 584-08-7 K2CO3
PRO U 106939-34-8
SOL 68-12-2 DMF

L3 ANSWER 1 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)
CON SUBSTAGE(1) 120 deg C
SUBSTAGE(2) 2 hours, 120 deg C
SUBSTAGE(3) 30 minutes

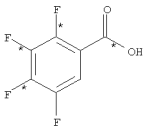
RX(7) RCT U 106939-34-8
RGT X 7647-01-0 HCl
PRO W 100986-89-8
SOL 7732-18-5 Water, 64-19-7 AcOH
CON SUBSTAGE(1) room temperature -> 80 deg C
SUBSTAGE(2) 6 hours, 75 - 80 deg C
SUBSTAGE(3) 80 deg C -> 20 deg C
SUBSTAGE(4) 1 hour, 15 - 20 deg C

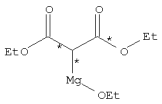
RX(8) RCT W 100986-89-8, Z 109-01-3
RGT AB 110-86-1 Pyridine
PRO AA 100986-85-4
SOL 110-86-1 Pyridine
CON 10 hours, room temperature -> 120 deg C

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 3 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 135:107303 CASREACT
TITLE: Studies on stereospecific synthesis of (S)-(-)-ofloxacin
AUTHOR(S): Li, Jiaming; Wang, Gang; Zhang, Xing; Zhou, Sixiang
CORPORATE SOURCE: Department of Pharmaceutical Chemistry, Anhui College of Traditional Chinese Medicines, Hefei, 230038, Peop. Rep. China
SOURCE: Zhongguo Yaowu Huaxue Zazhi (2000), 10(4), 276-278
CODEN: ZYHZEF; ISSN: 1005-0108
PUBLISHER: Zhongguo Yaowu Huaxue Zazhi Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB (S)-(-)-Ofloxacin was synthesized from 2,3,4,5- tetrafluorobenzoic acid by chlorination, condensation with di-Et malonate, partial hydrolysis, decarboxylation, condensation with tri-Et orthoformate, substitution with (S)-(+)-2-aminopropanol, cyclization, hydrolysis, and substitution with N-methylpiperazine. The overall yield from 2,3,4,5-tetrafluorobenzoic acid was 39.2%.

RX(10) OF 10 COMPOSED OF RX(1), RX(2), RX(3), RX(4)
RX(10) A + B + I + J + R ===> S


A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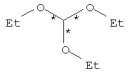
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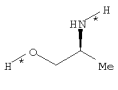
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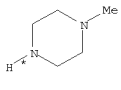
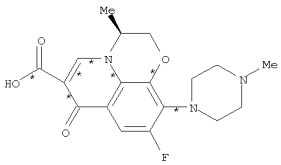

R

4 STEPS

L3 ANSWER 2 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)


S

YIELD 82%

RX(1) RCT A 1201-31-6

STAGE(1)
RGT D 7719-09-7 SOCl2
SOL 68-12-2 DMF

STAGE(2)
RCT B 207746-86-9
SOL 108-88-3 PhMe

STAGE(3)
RGT E 104-15-4 TsOH
SOL 7732-18-5 Water

PRO C 94695-50-8

RX(2) RCT I 122-51-0, C 94695-50-8

STAGE(1)
SOL 108-24-7 Ac2O

STAGE(2)
RCT J 2749-11-3
SOL 75-09-2 CH2Cl2

STAGE(3)
RGT L 584-08-7 K2CO3
SOL 68-12-2 DMF

PRO K 106939-34-8

RX(3) RCT K 106939-34-8
RGT P 7647-01-0 HCl
PRO O 100986-89-8
SOL 64-19-7 AcOH

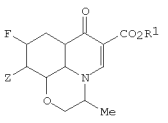
L3 ANSWER 2 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)

RX(4) RCT R 109-01-3, O 100986-89-8
PRO S 100986-85-4
SOL 67-68-5 DMSO

L3 ANSWER 3 OF 3 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 110:75530 CASREACT
TITLE: Process for preparation of racemic and optically active ofloxacin and related derivatives
INVENTOR(S): Mitscher, Lester A.; Chu, Daniel T.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

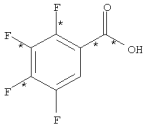
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4777253	A	19881011	US 1986-858532	19860425
US 4826985	A	19890502	US 1988-216063	19880707
PRIORITY APPLN. INFO.:			US 1986-858532	19860425

OTHER SOURCE(S): MARPAT 110:75530
GI


I

AB The title compds. I (R1 = H, C1-4 alkyl, PhCH2; Z = R4R5N; R4, R5 = H, alkanoyl, alkanoylamido, substituted amino; R4R5N = (un)substituted aliphatic heterocyclyl) (wherein the the racemate of ofloxacin exhibits antibacterial properties) were prepared (-)-I (R1 = Et; Z = F) (preparation given) in pyridine was added to 1-methylpiperazine, the mixture heated to 55°, and after workup, the solid obtained was dissolved in THF and NaOH solution to give (-)-I (R1 = H; Z = 4-methylpiperazinyl).

RX(86) OF 102 COMPOSED OF RX(4), RX(3), RX(5), RX(6), RX(13), RX(9)
RX(86) H + F + I + K + B ===> N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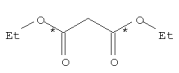
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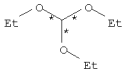
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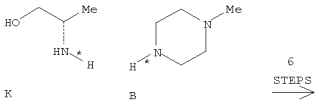
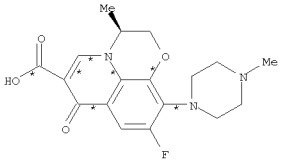
L3 ANSWER 3 OF 3 CASREACT COPYRIGHT 2009 ACS on STN (Continued)



K B



N

RX(4) RCT H 1201-31-6
PRO E 94695-48-4

RX(3) RCT E 94695-48-4, F 105-53-3
PRO G 94695-50-8

RX(5) RCT G 94695-50-8, I 122-51-0
PRO J 94714-58-6

RX(6) RCT J 94714-58-6, K 2749-11-3
PRO L 110548-02-2

RX(13) RCT L 110548-02-2
PRO P 106939-34-8
SOL 109-99-9 THF

RX(9) RCT P 106939-34-8, B 109-01-3
RGT Q 7732-18-5 Water
PRO N 100986-85-4
SOL 7732-18-5 Water

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT